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(54) **REDUCING OPTICAL INTERFERENCE IN A FLUIDIC DEVICE**

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This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.**
USPC 435/4; 435/287.1; 435/288.5; 435/288.7;
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(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,582,791 A 4/1986 Khanna et al.
5,441,894 A 8/1995 Coleman et al.
5,618,726 A 4/1997 Paszcynski et al.

5,744,320 A 4/1998 Sherf et al.
5,958,339 A * 9/1999 Belly et al. 422/422
6,352,862 B1 3/2002 Davis et al.
6,989,128 B2 1/2006 Alajoki et al.
8,008,034 B2 * 8/2011 Gibbons et al. 435/7.91
8,012,744 B2 * 9/2011 Gibbons et al. 435/288.5
2001/0031869 A1 * 10/2001 Akhavan-Tafti et al. 546/104
2002/0019059 A1 2/2002 Chow et al.
2002/0090633 A1 7/2002 Becker et al.
2002/0098097 A1 * 7/2002 Singh 417/413.1
2002/0106786 A1 8/2002 Carvalho et al.

(Continued)

FOREIGN PATENT DOCUMENTS

WO WO 2006/121510 A2 11/2006
WO WO 2007/111651 A2 10/2007
WO WO 2006/121510 A3 4/2009
WO WO 2007/111651 A3 5/2009

OTHER PUBLICATIONS

European search report dated May 25, 2010 for Application No. 7868405.7.

International search report date Sep. 9, 2008 for PCT Application No. US07/80917.

Sambrook, et al. Molecular Cloning: A Laboratory Manual. 3rd Edition. Cold Spring Harbor Laboratory Press. New York. 2001. (Cover pages and table of contents only).

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(57) **ABSTRACT**

This invention is in the field of medical devices. Specifically, the present invention provides portable medical devices that allow real-time detection of analytes from a biological fluid. The methods and devices are particularly useful for providing point-of-care testing for a variety of medical applications. In particular, the medical device reduces interference with an optical signal which is indicative of the presence of an analyte in a bodily sample.

31 Claims, 6 Drawing Sheets

